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(71) Applicant (for all designated States except US): GLUD & MARSTRAND A/S [DK/DK]; Hedenstedvej 14, DK-8723 Løsning (DK).

(72) Inventors; and

(75) Inventors/Applicants (for US only): LINDVOLD, Lars [DK/DK]; Kornager 210, DK-2980 Kokkedal (DK). TIDE-MANN, Jesper [DK/DK]; Merkurvej 42, DK-8723 Løsning (DK).

(74) Agent: PLOUGMANN & VINGTOFT A/S; Sundkrogs-gade 9, P.O. Box 831, DK-2100 Copenhagen Ø (DK).

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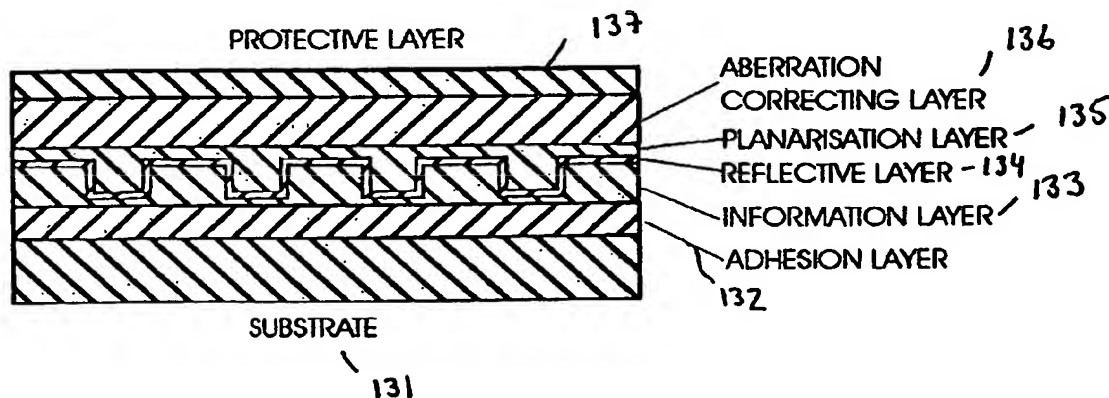
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(54) Title: A COMPENSATED OPTICAL STORAGE MEDIUM



(57) Abstract: A optical storage medium is provided, comprising a main substrate, an information surface being associated with the main substrate, and at least one compensating layer. The compensating layer may change a phase and/or amplitude of a propagating electromagnetic wavefront according to a first optical transfer function so that the optical storage medium may be read or recorded by a detector/emitter being pre-set to read or record information at an information surface through a medium changing the phase and/or amplitude of a propagating wavefront according to a predetermined optical transfer function being different from the first optical transfer function. The compensating layer may optically reduce a spot size of a light beam incident on the information surface, and/or compensate for aberrations caused by a first distance being different from a predetermined distance. The substrate may be non-transparent and/or thinner than standard substrates. Methods of making such media are also provided.

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/DK 03/00488

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 G11B7/24 G11B7/013

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 G11B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 132 904 A (MATSUSHITA ELECTRIC IND CO LTD) 12 September 2001 (2001-09-12)  paragraph [0024]; figure 1	1,2,7,8, 11,12, 100,103, 105
A	-----	14
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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"&amp;" document member of the same patent family

Date of the actual completion of the international search

14 May 2004

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Annibal, P

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In: International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 159 571 A (JEONG TAE HEE) 12 December 2000 (2000-12-12) column 3, line 52 - column 4, line 46; figure 3	1,2
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A		1-5, 11-13
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## INTERNATIONAL SEARCH REPORT

International Application No

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	WO 01/84546 A (WEA MFG INC) 8 November 2001 (2001-11-08) page 2, line 9 - line 28; examples 1,2 -----	6,11,12
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E	WO 2004/017316 A (MAHOMY FRANCES ANNE ; HAYES JOSEPH FRANCIS (AU)) 26 February 2004 (2004-02-26) abstract paragraph [0036] - paragraph [0045]; figure 4 -----	1-5,7,8, 11,12, 13,14

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/DK 03/00488

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 15-98  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:  
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 15-98

In view of the large number and also the wording of the claims presently on file, which render it difficult, if not impossible, to determine the matter for which protection is sought, the present application fails to comply with the clarity and conciseness requirements of Article 6 PCT (see also Rule 6.1(a) PCT) to such an extent that a meaningful search is impossible. Consequently, the search has been carried out for those parts of the application which do appear to be clear (and concise), namely an optical storage medium comprising a compensating layer which changes a phase and/or amplitude of a propagating electromagnetic wavefront according to a first optical transfer function so as to adapt the optical storage medium to be read and recorded by a detector/emitter being preset to read or record information at an information surface through a medium which changes the phase and/or amplitude of a propagating wavefront according to a different optical transfer function.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

## INTERNATIONAL SEARCH REPORT

Information on patent family members

In. International Application No

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